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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,600	12/09/2003	Michael T. Costello	0209-PA	4739

7590 09/02/2010

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EXAMINER	
GOLOBOY, JAMES C	
ART UNIT	PAPER NUMBER
1797	
MAIL DATE	DELIVERY MODE
09/02/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/731,600	COSTELLO ET AL.	
	Examiner	Art Unit	
	JAMES GOLOBOY	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12 and 14-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12 and 15-18* is/are rejected.

7)☒ Claim(s) *14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendments overcome the rejections set forth in the office action mailed 3/2/07. New grounds of rejection for some claims are set forth below.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 8/10/09 has been entered.

Claim Rejections - 35 USC § 103

3. Claims 12 and 15 stand rejected under 35 USC 103(a) as being unpatentable over Papay in view of Papke and Sivik (U.S. PG Pub. No. 2001/0044388).

Papay discloses in column 13 line 43 an overbased calcium sulfonate, as recited in component (b) of claim 12, as a preferred metal detergent additive for a lubricating composition, and in column 45 lines 39-43 discloses an alkanolamine reacted with a fatty acid as a supplemental dispersant additive, as recited in component (c) of claim

12. The alkanolamine can be triethanolamine, as recited in claim 15. Although the latter additive is not disclosed specifically as a friction modifier, case law holds that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In this case, the reaction product of an alkanolamine with a fatty acid can also act as a friction modifier. In the second table in column 50 Papay discloses that a preferred concentration of the supplemental dispersant additive is from 0 to 5% by weight, encompassing the range recited in amended claim 12.

Claim 12 recites the functional limitation of an amorphous overbased alkaline earth metal sulfonate present in a composition in an amount sufficient to provide a sedimentation rate of no more than about 0.005% per week at 70° C for at least 12 weeks. The specification has been referred to solely in an attempt to ascertain the scope of this limitation, specifically what amount of which type of alkaline earth metal sulfonate constitutes a “sufficient” amount.

In all of the examples from the specification where reduced sedimentation is observed (examples 5-8, 13-16, and 23-28), the amorphous overbased alkaline earth metal sulfonate is calcium sulfonate, present in an amount of 10% by weight of the composition. Therefore, a lubricant composition comprising 10% by weight of amorphous overbased calcium sulfonate will meet the functional limitation of a

"sufficient amount" of an amorphous overbased alkaline earth metal sulfonate in claim 12.

In the table in column 50 lines 12-15, Papay discloses that a preferred concentration for an overbased detergent (component a) in a lubricant composition is between 0.01 and 10% by weight, with the 10% endpoint matching the 10% sufficient to provide the required sedimentation rate.

The differences between Papay and the currently recited base oils are:

i) Papay further discloses in columns 47-49 lubricant oil stocks, as recited in component (a) of claim 12, to be combined with the additive mixture that includes the overbased calcium sulfonate and alkanolamine/fatty acid reaction product. From column 47 line 67 through column 48 line 1 Papay teaches that the base oil can be a naphthenic oil, but does not specifically disclose hydrotreated base oils as recited in component (a) of amended claim 12.

ii) The differences between Papay and the currently presented claims are that Papay does not disclose whether the overbased calcium sulfonate is amorphous, and Papay does not disclose the particle size of the overbased calcium sulfonate.

With respect to i), Sivik teaches in paragraphs 301 and 304 that hydrotreated naphthenic oils, as recited in component (a) of amended claim 12, are well known base oils for lubricating compositions.

With respect to ii), Papke discloses an improved process for producing overbased metal sulfonate detergents. In column 4 lines 56-59 Papke teaches that a preferred amorphous calcium sulfonate has a particle size of 100 to 150 Å (10-15 nm),

falling within the range recited in claim 12. Papke provides further examples of amorphous overbased calcium sulfonates with suitable TBNs in Table I. The use of the amorphous overbased calcium sulfonate of Papke as the overbased calcium sulfonate in the composition of Papay therefore meets the limitations of claims 12 and 15.

It would have been obvious to one of ordinary skill in the art to use the amorphous overbased calcium sulfonate of Papke as the overbased calcium sulfonate in the composition of Papay, as Papke teaches in column 1 lines 36-47 that compositions containing crystalline products can be unacceptably hazy or have poor stability. It would have been obvious to use the hydrotreated naphthenic base oil of Sivik as the naphthenic base oil of Papay as Sivik teaches that this is a well-known base oil.

4. Claim 16 stands rejected under 35 USC 103(a) as being unpatentable over Papay in view of Papke and Sivik as applied to claims 12 and 15 above, and further in view of Hartley.

The discussion of Papay in view of Papke and Sivik above in paragraph 3 above is incorporated here by reference. Papay also discloses from column 46 line 52 through column 47 line 12 that friction modifiers are also useful lubricant additives, but only teaches broad classes of compounds, not specific additives.

Hartley, in paragraph 8 and the reference's Claim 5, discloses a lubricating oil composition comprising a friction modifier formed by the reaction of triethanolamine and a fatty acid, where suitable fatty acids are described in paragraph 8 lines 4-11, including oleic, erucic, and tall oil fatty acids as recited in claim 16, and also including several

naturally occurring fatty acid compositions comprising some of the acids recited in claim 16.

It would have been obvious to one of ordinary skill in the art to include in Papay, Papke, and Sivik the specific additives disclosed by Hartley in order to improve fuel economy, as taught by Hartley in paragraphs 1-2 and 58-59.

5. Claims 17-18 stand rejected under 35 USC 103(a) as being unpatentable over Papay in view of Papke and Sivik as applied to claims 12 and 15 above, and further in view of Calhoun.

The discussion of Papay in view of Papke and Sivik above in paragraph 3 above is incorporated here by reference. Papay also discloses from column 46 line 52 through column 47 line 12 that friction modifiers are also useful lubricant additives, but only teaches broad classes of compounds, not specific additives.

Calhoun discloses in Example I a friction modifier compound comprising a diethylene glycol dioleate, a reaction product of diethylene glycol and methyl oleate, as recited in claim 18, and in Example V Calhoun discloses a friction modifier comprising a thiodiglycol (2,2′-thioethanol) dioleate, a reaction product of thiodiglycol with methyl oleate as recited in claim 17.

It would have been obvious to one of ordinary skill in the art to include in Papay the additives taught by Calhoun, due to their utility at extreme pressures as disclosed in column 1 of Calhoun.

Allowable Subject Matter

6. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 14 has been amended to limit the base oil, detergent, and friction modifier present in the composition. The data presented in the specification is sufficient to establish unexpected results commensurate in scope with amended claim 14.

Response to Arguments

7. Applicant's arguments filed 8/10/09 have been fully considered but they are not persuasive with regard to claims 12 and 15-18. Applicant argues that the data presented in the specification establishes unexpectedly superior results commensurate in scope with the amended claims. However, amended claims 12 and 15-18 recite 10% by weight of any amorphous overbased calcium sulfonate, while the data only exemplifies compositions where the calcium sulfonate has a TBN of 400. It is not clear that superior results would still be obtained with calcium sulfonates having lower TBNs. It is noted that the comparative examples contain calcium sulfonates with a TBN of 300, albeit in crystalline rather than amorphous form.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES GOLOBOY whose telephone number is (571)272-2476. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James Goloboy/
Examiner, Art Unit 1797